

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

EVOLVED WIRELESS, LLC,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 15-cv-542-SLR-SRF
)	
APPLE INC.,)	
)	
Defendant.)	
EVOLVED WIRELESS, LLC,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 15-cv-543-SLR-SRF
)	
HTC CORPORATION and)	
HTC AMERICA, INC.,)	
)	
Defendants.)	
EVOLVED WIRELESS, LLC,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 15-cv-544-SLR-SRF
)	
LENOVO GROUP LTD.,)	
LENOVO (UNITED STATES) INC., and)	
MOTOROLA MOBILITY,)	
)	
Defendants.)	
EVOLVED WIRELESS, LLC,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 15-cv-545-SLR-SRF
)	
SAMSUNG ELECTRONICS CO., LTD.)	
and SAMSUNG ELECTRONICS)	
AMERICA, INC.,)	
)	
Defendants.)	
)	

EVOLVED WIRELESS, LLC,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 15-cv-546-SLR-SRF
)	
ZTE CORPORATION, ZTE (USA) INC.,)	
and ZTE SOLUTIONS INC.,)	
)	
Defendants.)	
)	

EVOLVED WIRELESS'S REPLY CLAIM CONSTRUCTION BRIEF

Dated: September 15, 2016

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I. INTRODUCTION

Defendants would have this Court find nineteen asserted claims—including twenty claim terms—indefinite, despite the fact that Defendants have taken the opposite tack in petitions for *inter partes* review before the Patent Office. Indeed, Defendants have submitted expert testimony to the USPTO addressing how a person of ordinary skill in the art would understand the scope and structure of each of the claim terms at issue. As evidenced by Defendants’ own inconsistent expert testimony, Defendants’ indefiniteness arguments are without merit and should be rejected.

For the claim terms that Defendants do not allege are indefinite (there are only three), Defendants attempt to construe the terms in a vacuum without regard to the surrounding claim language, the disclosures in the specification, or the file history. Accordingly, Defendants’ constructions for the ‘373 patent are also without merit and should be rejected.

II. ARGUMENT

A. None of the Disputed Claims Are Governed by 112 ¶ 6.

Defendants continue to assert in this litigation that eleven terms are governed by 35 U.S.C. § 112 ¶ 6. None of these terms includes the word “means,” and it remains the law that § 112 ¶ 6 presumptively does not apply. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc). To overcome that presumption, Defendants must establish by a preponderance of the evidence that the claims are governed by § 112 ¶ 6. *See Apex Inc. v. Raritan Comput. Inc.*, 325 F.3d 1364, 1372 (Fed. Cir. 2003). Defendants have not met that burden, nor can they.

The eleven challenged claims fall into two categories, those that relate to transmitters or receivers (which are known structures) and those that specifically claim an algorithm (which is a structure). With respect to both sets of claims, Defendants cannot establish by a preponderance of the evidence that the claim terms do not connote structure to one of ordinary skill in the art. Of critical significance, for the transmitter/receiver claim terms, Defendants offer an expert

declaration that controverts the expert declarations presented by Defendants to the USPTO in support of multiple *inter partes* review petitions. And for the algorithm claims, Defendants plainly ignore the algorithms presented in the specification and claim language itself.

1. Defendants’ “Evidence” Regarding the Transmitter/Receiver Claims Contradicts Defendants’ Expert Testimony at the Patent Office.

Six of the claim terms challenged under § 112 ¶ 6 relate to transmitters and receivers. (D.I. 65 at 2-8.)¹ These claim terms—which appear in the ’481, ’965 and ’916 patents— include words such as “*transmitting* unit,” “*transmission* module,” “*transmission* unit,” and “*reception* module.” The additional terms are “an access module *accessing a random access channel*” and “a multiplexing and assembly entity *used for transmission* of new data.” Each of these terms is well known in the art and understood as a transmitter or receiver, i.e., structure, and as a matter of law therefore requires no additional description. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339-40 (Fed. Cir. 2016) (“[T]he patentee need not disclose details of structures well known in the art.”) In fact, Defendants themselves have admitted as much in other forums.

a. Defendants admit to the PTO that the “transmitting unit,” “transmission module,” and “transmission unit” are transmitters and connote structure.

The terms “transmitting unit,” “transmission module,” and “transmission unit” limitations connote structure because each of these terms is understood by a person of ordinary skill in the art to broadly claim a structure that transmits a signal. (D.I. 66 ¶¶ 31-32, 37-38, 43-44.)

Defendants do not dispute that these terms refer or relate to transmitters. Rather, Defendants submit expert testimony alleging that a person of ordinary skill would not understand “transmitting unit,” “transmission module,” and “transmission unit” as referring to transmitters. But in truth, Defendants’ expert testimony is nothing more than an unsupported assertion that because the claims do not recite the word “transmitter,” a person of ordinary skill—notably a

¹ For ease of reference, docket item citations refer to related case C.A. 15-cv-542-SLR-SRF.

person whom Defendants allege has a Master's degree in Electrical Engineering—would not understand “transmission module”, “transmitting unit” and “transmission unit” to refer to a “transmitter.” (*See, e.g.*, D.I. 74 ¶ 125 (“Dr. Cooklev presents definitions for ‘radio transmitter’ and ‘transmitter,’ but these are not the claim terms, and therefore do not shed any light on the structure of a ‘transmission module’ as used in the ’236 patent.”).) This unsupported assertion is not credible and it falls far short of overcoming the presumption that § 112 ¶ 6 does not apply to these terms. Moreover, Defendants cite no authority for such a strict requirement that claim terms and dictionary definitions must match exactly.

Defendants’ tack here is in stark contrast with the positions taken in their *inter partes* review petitions. In those proceedings, Defendants’ experts clearly claim to understand the term “transmission unit” as claimed in the ’481 patent to refer to a transmitter:

Panasonic 792 also discloses a ***transmission unit*** configured to implement that step. For example, Panasonic 792 refers to a ***transmitter*** and discloses that the UE transmits a random access preamble to a Node-B.

(Schulz Decl., Ex. 1 ¶ 79 (emphasis added).) In fact, multiple Defendants presented expert testimony to the PTO that “[a] skilled artisan reading the body of [’481 patent] claim 8 would have understood that the body of claim 8 ***defines a complete structure.***” (Schulz Decl., Ex. 2 ¶ 85 (emphasis added).) This is the same claim 8 which contains the disputed claim term “transmission unit” that Defendants assert before this Court lacks structure. (*See* D.I. 73 at 18 (“The ’481 patent nowhere discloses a ‘transmission unit’ or specifies its structure.”).)

Defendants’ PTO experts also understand the “transmitting unit” of the ’916 patent to be a transmitter:

As such, Zhuang327 discloses the “apparatus” (i.e., Zhuang327’s subscriber station) includes a ***transmitting unit*** (i.e., “non-processor circuits” including “a radio transmitter”). Indeed, the skilled artisan would have understood the ***radio transmitter*** of Zhuang327 transmits the circular shifted code sequence having the

second length.

(Schulz Decl., Ex. 3 ¶ 165 (emphasis in original).)

Similarly, Defendants have represented to the PTO that a person of skill in the art would recognize the “transmission module” of the ’236 patent to be structure: “Many structural features such as a transmission module and reception module would have been routine, common-sense design choices for the skilled artisan, who would have recognized that those features are necessary to implement working LTE devices.” (Schulz Decl., Ex. 4 ¶ 157.)

Having represented to the PTO that these terms are transmitters and understood by a person of ordinary skill in the art as connoting structure, Defendants’ contrary position here is not credible and should be rejected. While Defendants may argue that the two proceedings apply different claim construction standards, Defendants have presented expert testimony to the PTO that asserts a person of ordinary skill would have understood these terms to refer to transmitters, that the terms define structure, and that the terms are “routine, common-sense design choices.” Defendants’ PTO expert testimony goes well beyond opining as to the broadest reasonable interpretation of these words and instead affirmatively represents that a person of ordinary skill would understand these terms in the same manner as Evolved Wireless’s expert, as transmitters. (See D.I. 66 ¶¶ 31-49.) Given their own representations before the PTO, Defendants have not and cannot overcome the presumption that § 112 ¶ 6 does not apply to these claims.

b. Defendants admitted to the PTO that the “access module” is a transmitter.

Defendants also represented to the PTO that the “access module” of the ’965 patent is for transmitting information, i.e., it is a transmitter:

There is no description in the ’965 patent suggesting that “*accessing*” a RACH involves any steps beyond the *transmission* of information (e.g., the preamble) to the base station. . . . Accordingly, a POSA would have understood that, in the context of the ’965 patent, *accessing* the RACH is synonymous with *transmitting* information via the RACH.

(Schulz Decl., Ex. 5 ¶ 67 (emphasis added).) Defendants’ PTO expert therefore has the same understanding as to this term as Evolved Wireless’s expert. (*See* D.I. 66 at ¶ 50.)

But again, Defendants offer testimony to this Court insisting the opposite:

In my opinion, there is nothing in the specification of the ’965 patent that warrants equating “accessing a random access channel” with “transmitting [information] on a random access channel to the base station.” A person of ordinary skill in the art would understand that accessing a random access channel may involve steps other than merely transmitting information.

(D.I. 74 ¶ 94.) Defendants cannot offer sworn testimony to the Patent Office that “in the context of the ’965 patent, accessing the RACH is synonymous with transmitting information via the RACH” and then credibly assert before this Court that “there is nothing in the specification of the ’965 patent that warrants equating ‘*accessing* a random access channel’ with ‘*transmitting* [information] on a random access channel.’”

c. Defendants admitted to the Patent Office that the “reception module” is a structural feature.

Defendants also take inconsistent positions on “reception module” in the ’916 patent. Before the PTO, Defendants’ expert asserts that “[m]any structural features such as a transmission module and reception module would have been routine, common-sense design choices for the skilled artisan, who would have recognized that those features are necessary to implement working LTE devices.” (Schulz Decl., Ex. 4 ¶ 157.) Defendants’ PTO expert testimony is consistent with Evolved Wireless’s expert’s opinion on this term. (*See* D.I. 66 ¶ 57.)

Defendants’ expert in this litigation says the opposite, alleging “the term ‘reception module’ did not have an understood meaning in the art, and would not have provided any indication of a particular structure.” (D.I. 74 ¶ 135.) Given that Defendants offered sworn testimony in another forum, however, that a “reception module” is a “routine, common-sense design choice” that is “necessary to implement working LTE devices,” Defendants cannot

establish by a preponderance of the evidence that a “reception module” is not structure.

d. Defendants admitted to the Patent Office that the “multiplexing and assembly entity” connotes structure.

Here again, Defendants employ the same approach with respect to the “multiplexing and assembly entity” of the ’236 patent. In this litigation, Defendants’ expert alleges that while “multiplexer” and “assembly” are well understood in the art, when put together, he does not know what the term means and he has “not seen any evidence to the contrary.” (D.I. 74 ¶ 180.) But Defendants’ litigation expert ignores Defendants’ PTO expert, who represented:

[T]he 321 reference taught that the UE’s HARQ entity obtains a MAC PDU from a “Multiplexing and assembly” entity. **A skilled artisan would have understood that the “Multiplexing and assembly” entity constitutes a combination of hardware and software and is “used for transmission of new data.”**

(Schutz Decl., Ex. 4 ¶ 132.) (emphasis added)

Not only does Defendants’ litigation expert contradict Defendants’ PTO expert, he contradicts even himself within his own declaration. After asserting he has “not seen any evidence” that the words “multiplexing and assembly entity” have meaning to one of ordinary skill in paragraph 180, in paragraph 182, Defendants’ litigation expert acknowledges that an early version of a portion of the LTE standard specifically refers to a ““Multiplexing and assembly’ entity.” (See D.I. 74 ¶ 182.) The language Evolved Wireless’s expert identifies as evidence that a person of ordinary skill would understand the term “multiplexing and assembly entity” as connoting structure is the very same language Defendants’ PTO expert asserts would have been understood as constituting “a combination of hardware and software [that] is ‘used for transmission of new data.’” (Compare D.I. 66 ¶ 66 with Schutz Decl., Ex. 4 ¶¶ 132, 139.)

2. The Specifications Disclose Structure for the Transmitter/Receiver Terms.

Because Defendants fail to establish by a preponderance of the evidence that the transmitter/receiver terms do not connote structure, there is no need to look to the specification to

define the structure associated with those terms under § 112 ¶ 6. But were it necessary to do so, the person of ordinary skill would find more than sufficient structure, as set forth in Evolved Wireless’s supplemental brief. (D.I. 65 at 2-8; D.I. 66 ¶¶ 34-36, 40-42, 46-49, 53-56, 60-63, 68-71.) Here, too, Defendants’ arguments are disingenuous. For example, Defendants contend that ’916 patent Fig. 1, which the specification states “describes a structure of an apparatus for transmitting data,” *see* JA-20 at 2:57-58, does not disclose relevant structure because it “pertains to a ‘transmitting end,’ but a ‘transmitting unit’ is a mere subunit of a ‘transmitting end.’” (*See* D.I. 73 at 11.) But there can be no legitimate confusion between the “transmitting end” and the “transmitting unit.” The “transmitting end” simply refers to the transmitting end of the communication system, such as a cell phone, as opposed to the receiving end of the communication system, such as the cell tower. (*See, e.g.*, JA-21 at 4:18-21.) As both Evolved Wireless’s expert and Defendants’ PTO expert readily understand, the “transmitting unit” is the transmitter on a cell phone or other user equipment.

3. The Remaining Terms Challenged Under § 112 ¶ 6 Specifically Recite Structure in the Form of Algorithms.

The remaining disputed terms are also not subject to § 112 ¶ 6. Like the terms discussed above, none of these terms use the word “means,” and the presumption against application of § 112 ¶ 6 therefore must be overcome by a preponderance of the evidence. *See Apex*, 325 F.3d at 1372. The Defendants have again failed to overcome this presumption. To the contrary, each of these claim terms recites sufficient structure. Each term specifically recites an algorithm and, because an algorithm is structure, each disputed term specifically recites structure. *See Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014).

In assessing whether § 112 ¶ 6 applies, “[t]he standard is whether *the words of the claims* are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as

the name for structure.” *Williamson*, 792 F.3d at 1349 (emphasis added). Defendants fail to apply this standard in two respects. First, Defendants ignore the plain language of the claims. *See id.* at 1350 (“We begin with the observation that the claim limitation in question is not merely the introductory phrase . . . but the entire passage . . .”). Second, Defendants fail to recognize that for computer-implemented inventions, structure “may differ from more traditional, mechanical structure.” *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014). For computer-implemented inventions, such as those here, structure “is understood through, for example, an outline of an algorithm, a flowchart, or a specific set of instructions or rules.” *Id.*²

Because Defendants fail to address whether or not the words of the claims connote an algorithm to a person of ordinary skill, Defendants have failed to apply the standard set forth in *Williamson*. With respect to each of these algorithm terms, rather than address the actual claim language, Defendants latch on to an alleged “nonce” word, disregard the remainder of the term, and jump straight to the second step of the §112 ¶ 6 analysis. Defendants never address the algorithm recited in the claim language itself, as can be seen in the below chart, which compares the actual language with the language used in Defendants’ brief:

² Defendants’ assertion that the case law Evolved Wireless cites from *Apple* was “expressly overruled in *Williamson*” is incorrect. (*See* D.I. 73 at 8.) *Williamson* overruled the characterization of the presumption against application of § 112 ¶ 6 as “strong” and overruled “the strict requirement of ‘a showing that the limitation essentially is devoid of anything that can be construed as structure.’” *Williamson*, 792 F.3 at 1349 (quoting *Flo Healthcare Solutions, LLC v. Kappos*, 697 F.3d 1367, 1374 (Fed. Cir. 2012)). The case law that Evolved Wireless cites in *Apple*, that an algorithm constitutes structure for computer-implemented inventions, was unaffected by *Williamson* and remains good law. Similarly, Defendants’ assertion that “the analytical framework Evolved employs . . . was specifically rejected” in *Williamson*, *see* D.I. 73 at 9 n.3, mischaracterizes the Federal Circuit’s decision.

Disputed claim term	Term addressed by Defendants
“a code sequence generator for generating a code sequence having a second length by cyclic extension of a code sequence having a first length, and performing a circular shift to the code sequence having the second length” (Pl.’s Br. at 4.)	“ <u>a code sequence generator</u> for generating a code sequence . . .” (D.I. 73 at 5 (emphasis and ellipse in original).)
“a sequence selecting module acquiring information about predetermined two or more random access preamble sequence sets, selecting one random access preamble sequence set from among the predetermined random access preamble sequence sets considering at least one of a size of information to be transmitted by the apparatus and a degree of a path loss, and randomly selecting a specific sequence within the selected random access sequence set” (Pl.’s Br. at 10.)	“ <u>a sequence selecting module</u> acquiring information . . .” (D.I. 73 at 6 (emphasis and ellipse in original).)
“a radio protocol adapted to receive access information from a source base station after a handover request is accepted by the target base station” (Pl.’s Br. at 12.)	“ <u>a radio protocol</u> adapted to receive access information . . .” (Defs. Br. at 6 (emphasis and ellipse in original).)
“a Hybrid Automatic Repeat Request (HARQ) entity adapted to determine whether there is data stored in the Msg3 buffer when the reception module receives the UL Grant signal and the specific message is a random access response message, acquiring the data stored in the Msg3 buffer if there is data stored in the Msg3 buffer when the reception module receives the UL Grant signal and the specific message is the random access response message, and controlling the transmission module to transmit the data stored in the Msg3 buffer to the base station using the UL Grant signal received by the reception module on the specific message” (Pl.’s Br. at 13.)	“ <u>a Hybrid Automatic Repeat Request (HARQ) entity</u> adapted to determine whether there is data stored in the Msg3 buffer . . .” (Defs. Br. at 15 (emphasis and ellipse in original).)
“a preamble generation unit configured to generate said preamble sequence by repeating a specific sequence, having a length (L), N times to generate a consecutive sequence having a length (N*L) and concatenating a single cyclic prefix (CP) to a front end of said consecutive sequence” (Pl.’s Br. at 14.)	“ <u>a preamble generation unit</u> configured to generate said preamble sequence . . .” (Defs. Br. at 17 (emphasis and ellipse in original).)

Defendants’ arguments are inadequate on their face to overcome the presumption that § 112 ¶ 6 does not apply to these terms. Defendants fail to address the majority of the disputed claim language, including the portions of that language explicitly setting forth structure in the form of an algorithm. In doing so, Defendants never address that each of these claim terms connotes sufficient structure by reciting an algorithm that describes “the claim limitation’s

operation, such as its input, output, or connections.” *Apple*, 757 F.3d at 1299. For example, the “code sequence generator” term specifically recites a two-step algorithm: first, “generat[e] a code sequence having a second length by cyclic extension of a code sequence having a first length;” and second, “perform[] a circular shift to the code sequence having the second length.” Defendants ignore this portion of the claim language and instead contest only that the phrase “code sequence generator” does not connote structure. (*See* D.I. 73 at 7.).

In fact, Defendants’ entire response to the algorithms recited in these terms constitutes one sentence: “Nor do the ‘inputs and outputs’ (D.I. 65 at 11) allegedly described in the claims overcome this deficiency.” (D.I. 73 at 7.) This assertion is without merit. Defendants bear the burden of establishing by a preponderance of the evidence that § 112 ¶ 6 applies to the terms. Having failed to address the language of the claims, Defendants have failed to meet that burden.

4. The Specifications Describe and Disclose Structure in the Form of Algorithms.

Because Defendants fail to proffer any evidence to overcome the presumption that these algorithm terms are not governed by § 112 ¶ 6, there is no need to look to the specification for structure. Nonetheless, one of ordinary skill would find sufficient disclosure of structure in the specification to confirm the validity of the claims. (D.I. 66 ¶¶ 75-77, 82-87, 92-95, 101-105, 110-112.) As the Federal Circuit has made clear, the specification can express an algorithm “in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure.” *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008) (internal citation omitted). In addition, the algorithm may rely on techniques known to a person of skill in the art. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339-40 (Fed. Cir. 2016). Here, the specification provides just that—algorithms in understandable terms and relying on techniques known to one of skill in the art.

a. The '916 patent specification discloses an algorithm for generating a code sequence having a second length.

Defendants contend that “Fig. 13 and the corresponding portion of the specification does not disclose how a code sequence generator actually performs the required functions of ‘generating a code sequence’ and ‘performing a circular shift,’ but instead merely disclose performing certain operations on code sequences that have already been generated without explaining how they are generated or what generated them.” (D.I. 73 at 10.) In fact, Figure 13 and the corresponding portion of the specification disclose precisely how the final sequence is generated. (JA-13, Fig. 13.) Specifically, the inputs are a required sequence length L (a second length) and a CAZAC sequence with length X (a first length). The sequence is then extended using a cyclic postfix (a cyclic extension) before being circularly shifted. (*Id.*; *see also* JA-25 at 12:44-45 (“[T]he padding portion can be comprised of zeroes or cyclic prefix/postfix.”).) The entire process is also described in the limitations of claim 6 that follow the “code sequence generator” limitation:

6. An apparatus for transmitting a code sequence in a wireless communication system, the apparatus comprising:

a code sequence generator for generating a code sequence having a second length by cyclic extension of a code sequence having a first length, and performing a circular shift to the code sequence having the second length; and

a transmitting unit for transmitting the circular shifted code sequence having the second length,

wherein the first length is a largest prime number smaller than the second length,

wherein *the cyclic extension of the code sequence having the first length is performed such that a part of the code sequence having the first length, having a length corresponding to a difference between the first length and the second length, is added to either a start or an end of the code sequence having the first length*, and

wherein *the circular shift is performed to the code sequence having the second length such that either a rear portion of the code sequence having the second length moves to a start of the code sequence having the second length, or a front portion of the code sequence having the second length moves to an end of*

the code sequence having the second length.

(JA-28 at 18:7-28 (emphasis added).)

Defendants gloss over the claim language and instead argue that the algorithm is insufficient because it does not disclose how to generate the “code sequence having a first length.” But that is the input to the claimed algorithm. It is unnecessary to describe generation of the code sequence prior to input, which is not part of claim 6. And what is more, Defendants’ own expert admits that the ’916 patent discloses specific types of code sequences that may be used as the input sequence. (*See* D.I. 74 ¶ 51 (“[T]he specification discusses a variety of different mathematical approaches, including Hadamard code, Pseudo Noise (PN) codes, GCL CAZAC sequences, and Zadoff-Chu sequences[.]”).) Defendants’ claim that the ’916 patent does not properly disclose an algorithm is therefore without merit.

b. The ’965 patent specification discloses an algorithm for selecting a specific sequence.

With respect to the ’965 patent’s “sequence selecting module” limitation, Defendants contend that “[n]owhere in the specification is there any disclosure of *how* the sequence selecting module performs any of the claimed functions.” (D.I. 73 at 12.) But again, the claim itself specifies the operation of the sequence selection module; that is, it: (1) acquires information about two or more preamble sets; (2) selects a preamble set based on the size of information to be transmitted and degree of path loss; and (3) randomly selects a specific sequence within that set. This is an algorithm, and it is also disclosed in the specification in, for example, Figures 13 and 15. (D.I. 65 at 11; D.I. 66 ¶¶ 82-87.) Defendants again ignore the plain language of the claim and their argument should be rejected.

c. The ’373 patent specification discloses an algorithm for a handover.

The algorithm for “radio protocol” of ’373 patent claim 24 is set forth in Figure 9, and recited in the claim language itself. That is, the mobile station: (1) receives access information

from a source base station; and (2) performs a random access procedure with the target base station using the access information. While Defendants acknowledge these steps are set forth in Figure 9, Defendants contend that this language is not an algorithm because nothing describes “how the ‘radio protocol’ receives access information from the source base station or how it performs the random access procedure.” (See D.I. 73 at 14.) In other words, Defendants contend that the algorithm is not specific enough. Such a position, however, is contrary to the law. See *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339-40 (Fed. Cir. 2016) (“The fact that this algorithm relies, *in part*, on techniques known to a person of skill in the art does not render the composite algorithm insufficient under § 112 ¶ 6.”). Here, as evidenced by Defendants’ own expert submissions, a person of ordinary skill in art readily understands the structure and algorithms for performing random access procedures. (See, e.g., Schulz Decl., Ex. 6 ¶¶ 41-56 (describing historical random access procedures).)

Contrary to Defendants’ argument, the specification describes the structure and algorithms used for receiving access information and performing random access procedures. The “Background Art” section describes the “structure of a Radio Interface Protocol (RIP)” and how that structure is used to transmit and receive signals. (JA-1159 at 1:46-2:39; JA-1160 at 3:54-4:43.) That section also describes structures and operations for performing random access procedures. (JA-1159 at 2:40-3:21; JA-1160 at 4:55-5:7.) Further, the specification describes how the random access procedure is performed in the context of the invention. (JA-1162 at 7:8-29.) Defendants’ argument should be rejected.

d. The ’236 patent specification discloses an algorithm for sending the data in response to an UL Grant signal.

Defendants next contend a flowchart in the ’236 patent disclosing the claimed algorithm of the HARQ entity is “nothing more than a high-level description of the claimed functions that the

HARQ entity performs.” Defendants add that the figures and text “do not describe a sufficiently definite structure or process by which the HARQ entity actually ‘acquir[es] the data stored in the Msg3 buffer if there is data stored in the Msg3 buffer when the reception module receives the UL Grant signal and the specific message is the random access response message.’” (See D.I. 73 at 16.) But again, the level of specificity demanded by Defendants is not required. Flowcharts are sufficient to disclose structure. *Finisar*, 523 F.3d at 1340; *see also HTC Corp. v. IPCom GmbH & Co.*, 667 F.3d 1270, 1279-80 (Fed. Cir. 2012) (“Our case law does not require that level of hardware disclosure, however. As long as a sufficient algorithm describing how a general-purpose computer will perform the function is disclosed, reference to such general-purpose processors will suffice to overcome an indefiniteness challenge.”). Moreover, no additional structure need be disclosed for functions such as acquiring data from a buffer and receiving a signal because such functions are basic functions of a microprocessor. *EON Corp. IP Holdings LLC v. AT&T Mobility LLC*, 785 F.3d 616, 622-23 (Fed. Cir. 2015).

e. The ‘481 patent discloses an algorithm for generating a preamble.

Finally, Defendants assert that the ‘481 patent does not describe the structure for the “preamble generation unit” in claim 8. Here, too, the claim language itself recites an algorithm: a “preamble generation unit” generates a “preamble” by: (1) repeating a specific sequence, having a length L , N times to generate a consecutive sequence having a length $N*L$; and (2) concatenating a single cyclic prefix to the front end of said consecutive sequence. (JA-2620 at 18:62-67.) This algorithm is also disclosed in Fig. 11 in the ‘481 patent. Defendants argue that Figure 11 and the specification “merely pertain to the structure of the *preamble*, which is the output of performing the claim function, and thus cannot provide the structure of the ‘preamble generation unit’ that is required to perform that function.” (D.I. 73 at 17.) This argument, however, again ignores the law that an algorithm, such as a description of “the claim limitation’s

operation, such as its input, output, or connections,” is structure. *See Apple*, 757 F.3d at 1298-99.

Defendants attempt to further cloud the issue by attacking the specification’s description of the types of *inputs* (i.e. sequences) that can be used with the “preamble generation unit.” Specifically, the Defendants argue that “generating” the required preamble sequence is in purely subjective terms because the patent provides “[e]very sequence having excellent transmission characteristic, such as Hadarmad code and gold code, can be used as the code sequence.” (*See* D.I. 73 at 17 (quoting JA-2617 at 12:26-28).) But this text—sequences having excellent transmission characteristics—is in reference to the specific sequences used by the “preamble generation unit” to generate a preamble sequence. That is, the passage describes the types of sequences that can be used as input to the algorithm. Because the disputed claim language does not claim the algorithm for generating the input to the code sequence generator, but rather the algorithm to be performed on that input sequence, Defendants’ assertion is immaterial.

Moreover, Defendants admit the patent describes the structure of the preamble generation unit’s output. Because this limitation is a computer-implemented claim, the structure of which is an algorithm, Defendants’ brief admits the disclosure with respect to this limitation is sufficient. By disclosing the structure of the preamble generation unit’s output as a function of the input, the ’481 patent necessarily describes the algorithm to be performed to generate that structure.

Ultimately, Defendants’ challenges under § 112 ¶ 6 to the algorithm limitations fail. Each disputed term on its face claims an algorithm and therefore discloses sufficient structure. Even if it did not, the specifications and figures also describe structure in the form of the algorithm claimed in each limitation. Defendants’ assertion that Evolved Wireless’s proposed constructions for these terms are “pure functional claiming,” *see* D.I. 73 at 18-19, is based on Defendants’ misapplication of the law regarding disclosure of structure for computer-implemented

inventions. Each of these claims, and Evolved Wireless's proposed constructions for the same, involves an algorithm which, as a matter of law, is the correct form for disclosing structure for such computer-implemented claims. *Apple*, 757 F.3d at 1298-99.

B. Defendants' *IPXL* and *Rembrandt* Arguments Fail Because the Challenged Claims Properly Claim Apparatuses.

The Defendants also claim that '965 patent claim 8, '236 patent claims 7-10 and 12-13, and '373 patent claim 24 are invalid for allegedly mixing method and apparatus claims. (D.I. 73 at 18-19.) This argument again ignores the plain language of the claim terms.

Section 112 requires that a patent specification "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." This requires that "a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). The Federal Circuit has held that a claim covering an apparatus and method of using it fails to meet these requirements because it is unclear whether infringement occurs when the apparatus is created or only when a user actually uses the apparatus. *IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005). But "apparatus claims are not necessarily indefinite for using functional language." *Microprocessor Enhancement Corp. v. Texas Instruments Inc.*, 520 F.3d 1367, 1375 (Fed. Cir. 2008) ("*MEC*"). "If an apparatus claim 'is clearly limited to a[n apparatus] possessing the recited structure and *capable* of performing the recited functions,' then the claim is not invalid as indefinite." *UltimatePointer, LLC v. Nintendo Co.*, 816 F.3d 816, 826 (Fed. Cir. 2016) (quoting *MEC*, 520 F.3d at 1375). Each claim Defendants attack here as claiming an apparatus and a method is limited to an apparatus possessing the recited structure and capable of performing the recited functions and is, therefore, valid.

Just as with Defendants' attacks under § 112 ¶ 6, Defendants' alleged mixed claiming assertions rely upon a misapplication of the law. Rather than analyze each claim and its actual language, Defendants broadly mischaracterize that language and assert that all disputed terms "are similar to the term found indefinite in *Rembrandt Data Techs.*" (D.I. 73 at 22.) Defendants' broad assertions are incorrect. In *Rembrandt*, the Federal Circuit addressed the following claim:

A data transmitting device for transmitting signals corresponding to an incoming stream of bits, comprising:

first buffer means for partitioning said stream into frames of unequal number of bits and for separating the bits of each frame into a first group and a second group of bits;

fractional encoding means for receiving the first group of bits of each frame and performing fractional encoding to generate a group of fractionally encoded bits;

second buffer means for combining said second group of bits with said group of fractionally encoded bits to form frames of equal number of bits;

trellis encoding means for trellis encoding the frames from said second buffer means; and

transmitting the trellis encoded frames.

Rembrandt Data Techs., LP v. AOL, LLC, 641 F.3d 1331, 1339 (Fed. Cir. 2011) (emphasis added).

The *Rembrandt* claim was found indefinite because the final element, "transmitting the trellis encoded frames," did not recite an apparatus capable of performing that function but rather sought to cover the act of "transmitting" itself. *Id.* The decision in *Rembrandt* is inapplicable here because none of the challenged claim limitations lacks an apparatus or structure.

1. The '965 Patent Claim 8 Recites an Apparatus in the Form of Structure and the Capability of That Structure

The *Rembrandt* claim language is in stark contrast to the language of the asserted patents in this case. Unlike in *Rembrandt*, the challenged terms include the required apparatus. For example, each element in '965 patent claim 8 includes an apparatus:

An apparatus for transmitting a signal, the apparatus comprising:

a sequence selecting module acquiring information about predetermined two or more random access preamble sequence sets, selecting one random access preamble sequence set from among the predetermined random access preamble sequence sets considering at least one of a size of information to be transmitted by the apparatus and a degree of a path loss, and randomly selecting a specific sequence within the selected random access sequence set; and

an access module accessing a random access channel using the specific sequence selected by the sequence selecting module.

(JA-610 at 27:23-28:12 (emphasis added).)

The challenged claims here are similar to claims the Federal Circuit found valid in *UltimatePointer*. The claims in that case recited “‘a handheld device including: an image sensor, said image sensor generating data’ and other ‘generating data’ limitations.” *UltimatePointer*, 816 F.3d at 826. While the district court found the claims indefinite, the Federal Circuit reversed, explaining: “Unlike *IPXL* and similar cases, the claims at issue here make clear that the ‘generating data’ limitation reflects the capability of that structure rather than the activities of the user.” *Id.* at 827. Thus, the language “said image sensor *generating data*” in an apparatus claim reflects the capability of the sensor and does not claim the activity of the user generating data.

The language of ’965 patent claim 8 is indistinguishable from the *UltimatePointer* language. The ’965 patent claims an apparatus that comprises “a sequence selecting module acquiring information” and “an access module accessing a random access channel.” Just as in *UltimatePointer*, “the claims at issue here make clear” that the disputed language “reflects the capability of the structure rather than the activities of the user.” (Cooklev Reply Decl. ¶¶ 9-15.)

2. **The ’236 Patent Apparatus Claims Recite an Apparatus in the Form of Structure and the Capability of That Structure.**

The same is true with respect to ’236 patent claim 7:

A user equipment, comprising:

a reception module adapted to receive an uplink grant (UL Grant) signal from a base station on a specific message;

a transmission module adapted to transmit data to the base station using the UL Grant signal received on the specific message;

a message 3 (Msg3) buffer adapted to store UL data to be transmitted in a random access procedure;

a Hybrid Automatic Repeat Request (HARQ) entity adapted to determine whether there is data stored in the Msg3 buffer when the reception module receives the UL Grant signal and the specific message is a random access response message, acquiring the data stored in the Msg3 buffer if there is data stored in the Msg3 buffer when the reception module receives the UL Grant signal and the specific message is the random access response message, and controlling the transmission module to transmit the data stored in the Msg3 buffer to the base station using the UL Grant signal received by the reception module on the specific message; and

a multiplexing and assembly entity used for transmission of new data,

wherein the HARQ entity acquires the new data to be transmitted from the multiplexing and assembly entity if there is no data stored in the Msg3 buffer when the reception module receives the UL Grant signal on the specific message or the received message is not the random access response message, and controls the transmission module to transmit the new data acquired from the multiplexing and assembly entity using the UL Grant signal received by the reception module on the specific message.

(JA-2150 at 17:30-18:7.) (emphasis added).

Each of the first five elements in '236 patent claim 7 recites an apparatus possessing the recited structure and capable of performing the recited functionality with that structure. (Cooklev Reply Decl. ¶¶ 16-20.) The final element, beginning with “wherein,” then recites an algorithm which the claimed HARQ entity structure must be capable of performing. Because the claimed apparatus is a computer-implemented invention, its structure is disclosed and claimed in the form of an algorithm. The final “wherein” element therefore provides additional capabilities of the HARQ entity and does not mix an apparatus with a method of using the apparatus. (*Id.* ¶ 23.)

The remaining challenged '236 patent terms appear in dependent claims and recite additional aspects of the inventive algorithms disclosed by that patent. These elements therefore do not claim method steps but instead claim structure in the form of the algorithm the apparatuses must be capable of performing. No confusion exists as to when infringement occurs:

the act of manufacturing, importing, or selling devices that include the structure and capabilities claimed in '236 patent claims 7-10, 12, and 13 directly infringe those claims. (*Id.* ¶¶ 16-25.)

3. The '373 Patent Apparatus Claims Properly Recite an Apparatus and the Environment in Which That Apparatus Must Be Used.

Finally, the disputed claim terms of the '373 patent also properly claim an apparatus. The first disputed element, “a radio protocol adapted to receive access information from a source base station after a handover request is accepted by the target base station,” connotes an algorithm which the claimed mobile terminal must be capable of performing through hardware and/or software present in the mobile terminal. Defendants take issue with this term because a “radio protocol” connotes a procedure to a person of ordinary skill in the art. (*See* D.I. 73 at 22.) But “procedure” is simply another word for “algorithm” (Cooklev Reply Decl. at ¶ 28), and Defendants are therefore once again misapplying the law. In computer-implemented inventions such as those claimed in the '373 patent, structure is disclosed and claimed in the form of algorithms which must be present in the form of hardware and/or software. Indeed, the '373 patent itself specifically describes protocols in terms of structure and capabilities present in a mobile terminal. (JA-1160 at 3:54-4:24 (“The radio interface protocol of FIG. 7 is horizontally comprised of a physical layer, a data link layer, and a network layer, and vertically comprised of a user plane for transmitting user data and a control plane for transmitting control signaling.”).)

A person of ordinary skill therefore understands that the “radio protocol” of claim 24 is present on a mobile terminal in the form of an algorithm implemented through hardware and/or software. (Cooklev Reply Decl. ¶¶ 26-30.) The terminal need not execute the algorithm for infringement to occur; the claim is infringed by the apparatus itself with the claimed capability.

The same is true for the final disputed term, a “wherein” limitation that defines a portion of the algorithm the apparatus must be capable of performing. Defendants take issue with this term,

asserting that the claims “require that the referenced target base station perform the step of determining the dedicated preamble.” (*See* D.I. 73 at 22.) Yet this assertion is also incorrect. The ’373 patent apparatus claims do not require that the target base station determine the dedicated preamble. Rather, the claims require that the mobile terminal, an apparatus, be capable of executing the claimed algorithm in an environment in which the target base station determines the dedicated preamble. (Cooklev Reply Decl. ¶¶ 31-32.) Apparatus claims that recite the environment in which the apparatus must be used do not run afoul of the prohibition against mixing method and apparatus claims. *HTC Corp. v. IPCom GmbH & Co.*, 667 F.3d 1270, 1274 (Fed. Cir. 2012) (“If the network performs the functions, the claims are not indefinite because the claims merely describe the network environment in which the mobile station must be used.”).

The Federal Circuit’s decision in *HTC Corp.* is particularly on point. That case involved a patent that covers a handover in a cellular telephone network. *Id.* at 1273. The particular claim at issue recited a “mobile station for use with a network including a first base station and a second base station that achieves a handover from the first base station to the second base station” and included in the claim a recitation of actions to be performed by the first or second base station. *Id.* The district court found this method of claiming invalid as claiming both a method and an apparatus; the Federal Circuit reversed. The Federal Circuit rejected application of *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377 (Fed. Cir. 2006) because *IPXL* involved a claim which recited “a system that allowed a user to practice a method step and the user’s practicing the method step.” *HTC Corp.*, 667 F.3d at 1277. In contrast, the claims at issue in *HTC* “merely establish [the recited] functions as the underlying network environment in which the mobile station operates.” *Id.* For such claims, no confusion exists as to when infringement occurs: “infringement occurs when one makes, uses, offers to sell, or sells the claimed apparatus:

the mobile station—which must be used in a particular network environment.” *Id.*

The same is true here. The ’373 patent covers an improved handover in a cellular telephone network. The relevant claim recites a “mobile terminal for establishing a radio connection to a target base station in a mobile communications system” and includes recitation of actions to be performed by a source and target base station. (JA-1164 at 12:10-25.) *IPXL*, on which Defendants rely, is inapplicable because the ’373 patent apparatus claims do not recite a system that allows a user to practice a method step and the user’s practicing the step but instead establish the network environment in which the claimed mobile terminal operates. (*See* D.I. 73 at 19, 23.) There is no confusion as to when infringement of the ’373 patent occurs: infringement occurs when Defendants make, use, offer to sell, or sell the claimed apparatus, which is a mobile terminal used in a particular network environment. (Cooklev Reply Decl. ¶¶ 31-32.)

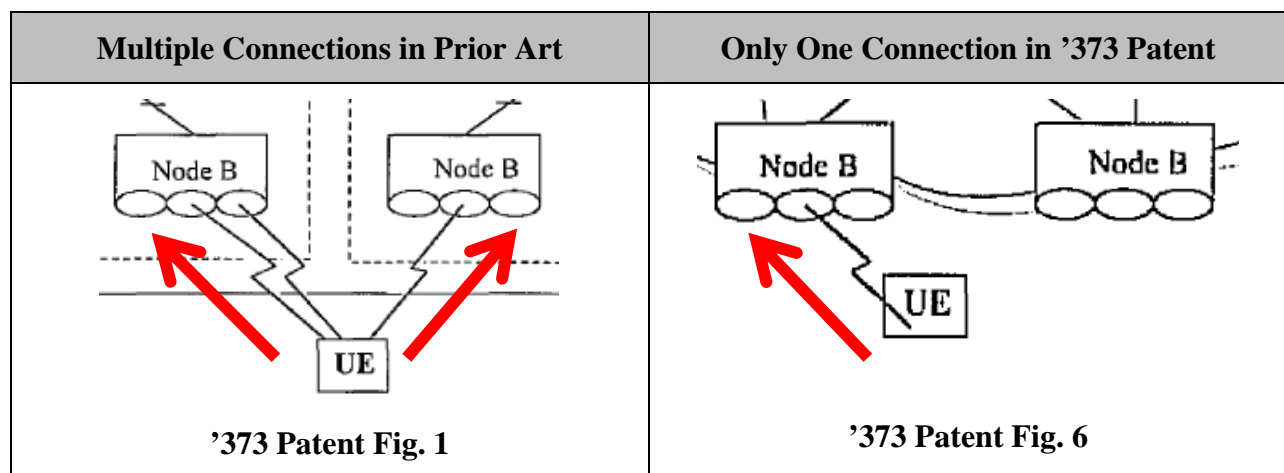
C. Defendants’ Proposed Constructions of the Remaining ’373 Patent Terms Are Inconsistent with the Intrinsic Record.

1. Defendants’ Construction for “Handover” Ignores Both the Specification and the Prosecution History.

Evolved Wireless’s proposed constructions for the remaining ’373 patent terms derive from the plain and ordinary meaning of the disputed terms as they would be understood by one of ordinary skill in the art in light of the claim language, the patent specification, and the prosecution history. Construing “handover” as proposed by Evolved Wireless does not “add an entirely new limitation to the claim” from the specification or file history as alleged by Defendants. Instead, Evolved Wireless’s proposal “most naturally aligns with the patent’s description of the invention,” which is “in the end, the correct construction.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc). As the Federal Circuit has emphasized, there is at times “a fine line between reading a claim in light of the specification, and reading a limitation into the claim from the specification.” *Id.* at 1323 (citation omitted). Here, the intrinsic

record shows that the claimed handover is understood by a person of ordinary skill in the art as “a process to transfer a telecommunication link by establishing radio connection with the target base station after radio connection with the source base station has ceased.”

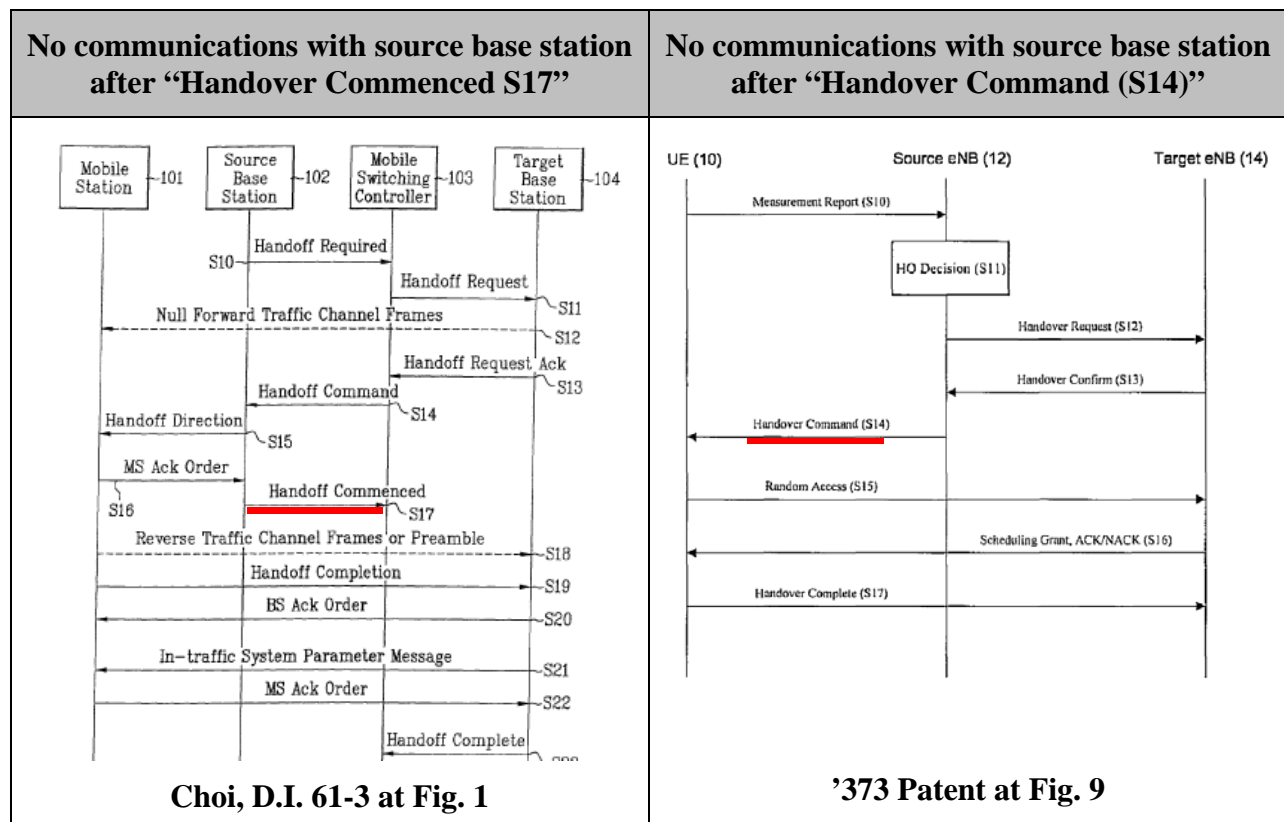
As Evolved Wireless set forth in its opening brief, an analysis of the specification and file history demonstrates that the '373 patent covers a particular handover— a transfer of a telecommunication link to a target base station after the link with the source base station has ceased. This type of handover is in contrast to the prior art depicted in the '373 patent. Figure 1 of the '373 patent (reproduced below) depicts a prior art system that employs *simultaneous* connections between the mobile device and multiple base stations. But the figure depicting the claimed invention of the '373 patent, Figure 6 (reproduced below) shows only a single connection with the base station. Handovers in this system are sometimes referred to as a “hard” handover because no connection remains between the source base station and the UE after the link is transferred to the target base station. (See D.I. 60 at 6-7; '373 patent at Fig. 1, JA-1152.)



This is confirmed by the art in the file history, which shows multiple connections in the same drawing to depict soft handovers. (See Samuel, D.I. 61-3 at Fig. 1; *id* at [0031]

(“[H]andovers (indicated by the dotted line 155 in FIG. 1) of the mobile unit 120 between the first and second networks 105, 110 can be performed as continuous, i.e. soft, handovers.”).)

In addition, Figure 9 of the '373 patent is a timing diagram that tracks the claims. Figure 9 shows a handover where the connection with the source base station ceases before the connection to the target is established. Defendants contend that neither Figure 9 (reproduced below) nor the specification suggests that the connection to the source base station has ceased. This is not true. Defendants ignore the fact that Figure 9 is a top-to-bottom timing diagram. As plainly set forth in Figure 9, the last communication between the mobile device and the source base station is the "Handover Command (S14)" message. This reading is consistent with the understanding of one of skill in the art at the time of the invention. Notably, Figure 1 of Choi—cited on the face of the '373 patent—depicts a "hard" handover in the same fashion. Specifically, Choi provides: "The source base station 102, upon receiving the MS Ack Order message, transmits a Handoff Commenced message to the mobile switching center 103 *to acknowledge a hard handoff of the mobile station* 101 to the target base station 104 (S17)." (emphasis added).



For the purposes of claim construction, Choi is considered part of the intrinsic record. *V-Formation, Inc. v. Benetton Grp. SpA*, 401 F.3d 1307, 1311 (Fed. Cir. 2005). Choi demonstrates that one of skill in the art would recognize Figure 9 as depicting a “hard” handover—i.e., a handover where communication with the source ceases before the connection to the target is established. *See, e.g., id.* at 1312 (“[The prior art patent] provides evidence that rivets are considered by persons of ordinary skill to be permanent fasteners.”)

Evolved Wireless’s construction is further confirmed by the ’373 file history itself. There, the applicant explained why the inventions of the ’373 patent reflected improvements over the soft handover disclosed in the Samuel reference. Specifically, the applicant distinguished Samuel by arguing “Samuel merely discloses a conventional soft handover technique between networks.” (*See* JA-1325.) Of critical significance, the applicant later amended the ’373 claims at the request of the examiner to clarify that the limitations used to overcome Samuel, i.e. the signature information, was a “dedicated preamble” and that the information was used to permit the terminal to access the target base station. (JA-1484.) As discussed in the opening brief, D.I. 60 at 5-8, this advantage over the prior art foreclosed the need for a soft handover. That is, the use of the dedicated preamble eliminated the possibility of collisions and enabled the mobile device to access the target base station without the need to maintain simultaneous connections with both the source and the target base stations. (*See id.* at 12-18.)

Given these clear disclosures, a person of ordinary skill in the art would understand the claimed handover as one in which a connection is transferred to the target base station as opposed to maintaining simultaneous connections. Defendants offer no intrinsic evidence as support for their proposed construction and instead rely only on extrinsic evidence—a dictionary definition and expert testimony—which cannot trump the intrinsic record and contemporaneous

understanding of how to depict a “hard” handover in the prior art. *See Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1367 (Fed. Cir. 2003) (“When an analysis of intrinsic evidence resolves any ambiguity in a disputed claim term, it is improper to rely on extrinsic evidence to contradict the meaning so ascertained.”) As such, Defendants’ proposed construction should be rejected.

2. Defendants’ Construction for “Target Base Station” Ignores the Intrinsic Record.

Defendants again ignore the specification and file history, violating black letter claim construction law. The prosecution history and the ordinary meaning of “target base station” do not support Defendants’ construction as the “base station to which a terminal’s connection *may* be transferred.” Further, Defendants would have the Court construe the claims in a vacuum without regard to the structure of the remaining claims. In truth, the proper construction of “target base station,” in view of the intrinsic record as well as Defendants’ extrinsic evidence,³ is “the base station to which the source base station determines the mobile terminal will be transferred.”

As set forth in the opening brief, the claims and specification of the ’373 patent demonstrate that the “target base station” is the base station actually determined by the source base station to handover the mobile device to. (D.I. 60 at 19-22.) The “target base station” does not consist of multiple base stations that the mobile device *may* be transferred to, but it is the base station determined by the source as the “*target* base station.” The claims themselves support Evolved Wireless’s construction. The first step of claim 1, a claim performed only by the source base station, is “deciding to perform a handover for a terminal to a cell of a target base station.” (JA-1163.) Defendants dispute that the claims are structured as described by Evolved Wireless in the opening brief, *see* D.I. 60 at 10-11, 19-20, but offer no credible arguments in support. For

³ Despite offering expert testimony for “handover,” Defendants offer no expert testimony for “target base station.”

example, Defendants allege that “Evolved’s own construction would require at least the first step of claim 15 to be performed by the source base station,” D.I. 73 at 29, yet none of Evolved Wireless’s constructions compel the source base station to perform the step “receiving access information.” Indeed, the specification uses “target base station” in only one manner, as the “the base station to which the source base station determines the mobile terminal will be transferred.”

Choi, prior art cited during prosecution, confirms this understanding of the word “target” and also confirms that Defendants’ construction is improper. Choi refers to “target base station” in the same manner as the ’373 patent—it is determined by the source base station. (*See* D.I. 61-4 at [0032] (“Referring to FIG. 1, the source base station 102 first determines the necessity of a handoff to the target base station 102.”).) In fact, Defendants’ proposed construction to this Court is defined in Choi as the “neighboring base station” and not the “*target* base station.” (*See id.* at [0015] (“Generally in a handoff, a mobile station . . . probes the intensity of pilot signals from . . . neighboring *base stations* or sectors. It then . . . reports to the source base station for a handoff to *one of the* neighboring base stations”) (emphasis added).) Thus, as used in Choi, the neighboring base stations (plural) are base stations the mobile phone *may* be transferred to, but the “target base station” is only *one* of the neighboring base stations chosen for the handover. And specifically, the “target base station” of Choi is determined by the source base station. (*Id.* at [0032].) As intrinsic evidence, Choi is most instructive.

Further, the extrinsic evidence cited by Defendants actually supports Evolved Wireless’s construction and demonstrates that, like Choi, Defendants’ proposed construction is directed to “neighbor base stations,” plural, and not the claimed “target base station.” The definition for “target base station” from the Wi-Max standard is the base station *chosen by the mobile phone*, in contrast to “neighbor base station,” which the standard defines as “a base station . . . whose

downlink transmission *can* be received by the mobile station.” (See D.I. 75-1 at ECF p. 76, Ex. 2 at 8.) In Wi-Max, as opposed to the ’373 patent and Choi, the mobile phone chooses the target base station. Thus, as Defendants’ own evidence shows, “target base station” does not have the same plain and ordinary mean in the art as proposed by Defendants. But as is clear from all of the record evidence, including the claims, the specification, and the prosecution history of the ’373 patent, along with Defendants’ extrinsic evidence, a person of ordinary skill in the art would understand the claimed “target base station” in the ’373 patent to be the “the base station to which the source base station determines the mobile terminal will be transferred.”

Defendants allege that Evolved Wireless’s construction imports limitations from the specification, citing one of this Court’s prior decisions relying on *Liebel-Flarsheim Co. v. Medrad, Inc.* But in *Liebel-Flarsheim*, the Federal Circuit found that the proposed claim construction imported a limitation from the specification because the claims did not include any terms directed to a feature in the preferred embodiment. 358 F.3d 898, 904-05 (Fed. Cir. 2004). In contrast, Evolved Wireless’s construction does not add any new limitation missing from the claims. Instead, it properly construes the term as understood from the intrinsic record.

3. Defendants Ignore the Claims for “The Measurement Report is Used to Determine”

Defendants would have the Court ignore dependent claim 16, which states “transmitting a measurement report to *the source base station*” and find that claim 17 does not claim “wherein *the* measurement report is used *by the source base station* to determine whether to perform a handover.” From just the claims, “*the* measurement report” of claim 17 refers back to the measurement report sent to the source base station in claim 16—there is no other measurement report sent in the claims. Indeed, there is no other measurement report from the specification but the report that is sent to and used by the source base station. (See D.I. 60 at 22-23.) As such, Evolved Wireless’s construction is properly based on the intrinsic record.

4. “An Evolved Universal Mobile Telecommunication System (E-UMTS)” is Definite

With respect to the “E-UMTS” term of claim 25, Defendants argue that even though a person of ordinary skill in the art—including their own expert—would understand the term to mean the system under development by the LTE standard-setting organization, the Third Generation Partnership Project (“3GPP”), the term is nonetheless indefinite because the standard setting work was incomplete. Defendants cite no case law for this proposition and ask this Court to impose a new and exacting indefiniteness inquiry distinct for standard-essential patents. In Defendants’ view, patents claiming innovations made while developing new technological standards are invalid if, at the time of the invention, the standard setting work was incomplete. (D.I. 73 at 23.) This position is inconsistent with the case law, which only requires “reasonable certainty.” As Defendants’ own expert testimony shows, a person of ordinary skill in the art would understand the scope of the claimed “E-UMTS” to mean an LTE system.

Section 112 requires that patent claims “inform those skilled in the art about the scope of the invention *with reasonable certainty*.” *Nautilus*, 134 S. Ct. at 2129 (emphasis added). The Supreme Court recognized that “absolute precision is unobtainable” and that “the certainty which the law requires in patents is not greater than is *reasonable*, having regard to their subject-matter.” *Id.* (emphasis added). Claim 24 of the ’373 patent claims a mobile device capable of performing an improved handover from a source base station to a target base station, and claim 25 specifies that the base stations are an “enhanced NodeB . . . in an Evolved Universal Mobile Telecommunication System (E-UMTS).” As the specification and Defendants’ expert make clear, enhanced NodeBs were known elements of an E-UMTS network, i.e. an LTE network.

Indeed, the ’373 patent was the result of the LTE standard setting process. (*See* D.I. 1 ¶¶ 7-11 & 15-16.) Further, the ’373 patent specifically identifies the standards: “the features of the present invention may be related to issues regarding the long-term evolution (LTE) of the 3GPP

standard.” (JA-1161 at 5:64-66.)

As such, the 3GPP standard . . . as well as various developing enhancements thereof pertain to the present invention. For example, in [the] present invention, a source enhanced Node B (eNB) may manage the source cell described above and a target enhanced Node B (eNB) may manage the target cell.

(*Id.* at 5:66-6:5.) Defendants’ own expert cites 3GPP documents from October 2005

demonstrating that the claimed “E-UMTS,” along with the Evolved Universal Terrestrial Radio Access (“E-UTRA”), is the network architecture for LTE networks. (*See, e.g.*, D.I. 74 ¶ 220; D.I. 75-1 at ECF p. 54 (“When the mobile moves between (E-UTRA) LTE-IDLE and an ‘inactive’ UTRA state, the UE does no signaling to the network”); *id.* at p. 55.) Thus, Defendants’ own expert agrees that a person of ordinary skill would understand with reasonable certainty that the scope of claim 25 covers a mobile device capable of performing the improved handover described in claim 24 on the enhanced base stations of the LTE network. And despite Defendants’ arguments to this Court, Defendants’ expert in their IPR petitions, Dr. Jonathan Wells, found the term to be definite. (*See* Schulz Decl., Ex. 6 ¶ 126.) Thus, as a matter of law, the Court should reject Defendants’ arguments and find that the “E-UMTS” term is definite.

III. CONCLUSION

For the reasons set forth above and in Evolved Wireless’s Opening and Supplemental Claim Construction Briefs, Evolved Wireless respectfully requests that the Court reject Defendants’ argument on invalidity and affirm Evolved Wireless’s proposed constructions. Defendants’ expert testimony submitted to this Court in support of their indefiniteness arguments is contradicted by Defendants’ other expert testimony submitted in support of their petitions for *inter partes* review. As Defendants’ other expert testimony shows, a person of ordinary skill in the art would understand the scope and structure of the terms at issue, and Defendants’ contrary allegations to this Court ring hollow.

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Respectfully submitted,

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